

CLAIMS:

1. An echo canceller (1) comprising two or more adaptive filters (5, 10) for calculating echo estimates, the adaptive filters (5, 10) each having adaptation control mechanisms (9, 11) for applying individual update control criteria, at least two of the adaptive filters (5, 10) being arranged in series.

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2. The echo canceller (1) according to claim 1, characterised in that a first adaptive filter (9) is arranged for cancelling an echo part, and the second adaptive filter (11) is arranged for cancelling at least a remaining echo part.

10 3. The echo canceller (1) according to claim 1 or claim 2, characterised in that the echo canceller (1) includes a delay element (12) which is coupled to a second or further adaptive filter (10).

15 4. The echo canceller (1) according to any one of the claims 1-3, characterised in that the first adaptive filter (9) is arranged for cancelling a direct echo, and the second adaptive filter (11) is arranged for cancelling a diffuse echo.

20 5. The echo canceller (1) according to any one of the claims 1-4, characterised in that the echo canceller (1) comprises threshold means (13, 14) coupled to at least one of the adaptation control mechanisms (9, 11) for reducing the respective step-size if the spectral power of near end speech fed to the echo canceller (1) exceeds a respective threshold level.

25 6. The echo canceller (1) according to claim 5, characterised in that the threshold level which is applied in the adaptation control mechanism (9, 11) for the direct and/or diffuse echo part is dependent on the spectral power of a far end signal fed to the echo canceller (1).

7. The echo canceller (1) according to claim 6, characterised in that the dependency on the spectral power of the far end signal fed to the echo canceller (1) is a linear dependency through an adjustable coupling factor.

5 8. The echo canceller (1) according to claim 6 or 7, characterised in that the threshold level for direct echo cancelling is related to the spectral power of the far end signal multiplied by an echo reduction function.

9. A telephone, in particular a mobile telephone, comprising an echo canceller (1)
10 according to any one of the claims 1-8.